

Amendments to the Claims:

Please cancel claims 1-31 without disclaimer or prejudice to applicants' right to pursue the subject matter of these claims in a future divisional or continuation application.

Please add new claims 32-54 as set forth below.

Claims 1-31. (Cancelled)

32. (New) A method for surgically implanting a multi-lumen catheter into a patient, the multi-lumen catheter comprising a multi-lumen tube portion, a proximal end comprising a single-lumen proximal venous portion and a single-lumen proximal arterial portion, and a distal end including a single-lumen distal venous tube portion and a single-lumen distal arterial tube portion each having a distal end, the method comprising:

- (a) making an incision in the skin of the patient
- (b) inserting the proximal end of the catheter through the incision, into the patient;
- (c) forming a subcutaneous tunnel having a first end proximate to the incision and a second end a distance from the first end of the tunnel;
- (d) guiding the distal end of the catheter and at least a portion of the multi-lumen tube portion through the subcutaneous tunnel such that at least the distal ends of the distal venous and distal arterial tube portions extend outwardly from the second end of the tunnel.

33. (New) A method according to claim 32, the method further comprising respectively connecting the distal arterial and distal venous tube portions of the catheter to an arterial leg and a venous leg of a fluid exchange device.

34. (New) A method according to claim 33, wherein connecting the distal arterial and distal venous portions of the catheter to the arterial and venous legs of the fluid exchange device comprises connecting the distal arterial portion of the catheter to the arterial leg utilizing a first connector hub, and connecting the proximal venous portion of the catheter to the venous leg utilizing a second connector hub.

35. (New) The method of claim 32, wherein inserting the proximal end of the catheter into the patient comprises:

placing the proximal venous portion of the catheter into the circulatory system of the patient; and

placing the proximal arterial portion of the catheter into the circulatory system of the patient.

36. (New) The method of claim 32 wherein the multi-lumen catheter further comprises a stabilizing cuff affixed to an outer surface of the catheter, the step of guiding the distal end of the catheter and at least a portion of the multi-lumen tube portion through the subcutaneous tunnel further comprising placing the stabilizing cuff between the outer surface of the catheter and an interior wall of the subcutaneous tunnel.

37. (New) The method of claim 36 further comprising dilating at least a portion of the subcutaneous tunnel before guiding the distal end of the catheter and at least a portion of the multi-lumen tube portion through the subcutaneous tunnel, wherein the dilating step comprises sliding a sheath dilator along a shaft of a trocar longitudinally positioned in the tunnel.

38. (New) The method of claim 37 further comprising seating the stabilizing cuff in a dilated portion of the subcutaneous tunnel.

39. (New) The method of claim 32 wherein the step of guiding the distal end of the catheter and at least a portion of the multi-lumen tube portion through the subcutaneous tunnel further comprises the steps of:

- (a) attaching an attachment end of a trocar to the distal end of the catheter; and
- (b) passing the attachment end of the trocar, with the distal end of the catheter attached, through the subcutaneous tunnel.

40. (New) The method of claim 39 further comprising placing a sheath having a smooth outer contour over the attachment end of the trocar where it attaches to the distal end of the multi-lumen catheter.

41. (New) A method for placing a catheter into the vasculature of a patient, the catheter comprising a central multi-lumen portion, a proximal end portion and a distal end portion, each of the proximal and distal end portions comprising single-lumen catheters not connected to each other along a substantial portion thereof, the method comprising:

- (a) making an incision in the skin of the patient
- (b) inserting the proximal end of the catheter through the incision, into the patient;
- (c) forming a subcutaneous tunnel having a first end and a second end, there being a distance between the first end of the tunnel and the second end of the tunnel;
- (d) guiding the distal end of the catheter and at least a portion of the central multi-lumen portion through the subcutaneous tunnel from the first end of the subcutaneous tunnel to the second end of the subcutaneous tunnel such that at least a

portion of the distal end portion extends outwardly from the second end of the tunnel.

42. (New) The method of claim 41 wherein the single-lumen catheters of the distal end portion are joined together proximate a distal end of each when the distal end of each is guided through the subcutaneous tunnel.

43. (New) The method of claim 42 wherein the distal ends of the distal end single-lumen catheters are joined together by a connector.

44. (New) The method of claim 42 wherein the step of guiding the distal end of the catheter and at least a portion of the central multi-lumen portion of the catheter through the subcutaneous tunnel further comprises the steps of:

- (a) attaching an attachment end of a trocar to the distal end of the catheter; and
- (b) passing the attachment end of the trocar, with the distal end of the catheter attached, through the subcutaneous tunnel.

45. (New) The method of claim 44 wherein a distal end of each of the distal end single-lumen catheters are joined together by the attachment end of the trocar.

46. (New) The method of claim 44 wherein a distal end of each of the distal end single-lumen catheters are joined together by a connector element.

47. (New) The method of claim 44 further comprising placing a sheath having a smooth outer contour over the attachment end of the trocar where it attaches to the distal end of the catheter.

48. (New) A method according to claim 41, the method further comprising connecting one single-lumen catheter of the distal end of the catheter to an arterial leg of a fluid exchange device and connecting another of the single-lumen catheter of the distal end of the catheter to a venous leg of a fluid exchange device.

49. (New) A method according to claim 48, wherein the single-lumen catheters comprising the distal end of the catheter are connected to the fluid exchange device utilizing a first connector hub for each single-lumen catheter.

50. (New) The method of claim 41 wherein the catheter further includes a stabilizing cuff affixed to an outer surface of the catheter, the step of guiding the distal end of the catheter and at least a portion of the central multi-lumen portion through the subcutaneous tunnel further comprising placing the stabilizing cuff between the outer surface of the catheter and an interior wall of the subcutaneous tunnel.

51. (New) The method of claim 50 further comprising dilating at least a portion of the subcutaneous tunnel before guiding the distal end of the catheter and at least a portion of the central multi-lumen portion through the subcutaneous tunnel, wherein the dilating step comprises sliding a sheath dilator along a shaft of a trocar longitudinally positioned in the tunnel.

52. (New) The method of claim 51 further comprising seating the stabilizing cuff in a dilated portion of the subcutaneous tunnel.

53. (New) The method of claim 41 wherein the step of guiding the distal end of the catheter and at least a portion of the multi-lumen tube portion through the subcutaneous

Appl. No. : Unknown  
Applicants: Jon S. Wilson, et al.  
Preliminary Amendment Filed March 9, 2004  
Page 22

tunnel further comprises the steps of:

- (a) attaching an attachment end of a trocar to the distal end of the catheter; and
- (b) passing the attachment end of the trocar, with the distal end of the catheter attached, through the subcutaneous tunnel.

54. (New) The method of claim 53 further comprising placing a sheath having a smooth outer contour over the attachment end of the trocar where it attaches to the distal end of the multi-lumen catheter.